

4. Head Ex - nodding, turning, rolling.
5. Abdominal Ex - bk lying 2 L. lift & lower
6. Special Hx - Ex - (clawing - sit on stool - draw toes under foot - lift concave)  
Ankle rolling - passive & active  
... flex & exten. (Only give about 2 of these however)

Ab & Ad of toes - Pick pencils up Rolling  
ft over bottle, etc.

Sit in cross - sit - rocking horse.

Chest Expansion - sit on stool.

Leg Ex - Standing (toes in)

Games & make treatment more interesting after getting them off feet. Foot prints once every 6 wks.

### Order of Scheme

1. Respiratory Movement.
2. Limb " { arm  
leg
3. Movement for head & neck.
4. " affecting Abdominal Muscles.
5. " for chest & back.
6. Limb Movements
7. Respiratory " .



Scheme for flat feet.

L. Creighton

1. Strch. grasp sitt - Chest lift. & lower. ✓
2. Str. st - easy arm. swing. ✓
3. Part. opp. grip - stand - slow hl. rais. &  
deep kn. bend. ✓
4. X h. sitt - H. bd & strch s-s. ✓

Special -

- Special -
- a. Sitt - Toe wiggling. (one after the other) ✓
  - b. " - Ank. flexion with toes curled under  
ft - slowly extend & uncurl. ✓
  - c. " - Toes ab & ab. (slowly) ✓
  - d.

5. Bk. ly. - Slowly sitt. up & ly. back. ✓
6. Bk. clp. kn. bow sitt - bk. stick. ✓
7. Bk ly. - alt. kn. bend & stick w A bend & stick. w & d. ✓
8. Sitt - Ch. expand & relax w. deep breathing. ✓

7 lat Foot -

1. Feet astride jp. w hands clap. overhead.
2. Lying - Breathing in all parts of thorax.
3. X L. sitt - H. nodd (4 cts.)
4. Toe grip X L. sitt - Rocking horse or Leaning or Combination Stawing in cl. st.
5. Cor. ly - 2 kn. updraw.
6. ST. on outer borders of ft. + spec. ft. ex.
7. Hy. act A upwd. flung.
8. Cl. st - Alt. kn. rais. + lower.
9. Hy - deep breathing.



## Flat Feet.

1. Slack Sitt - Chest lifting.
2. Close " - 2 A. bd. & str.
3. A. ly - alt. L upw. & r bd.
4. X l. sitt - Head nodding
- Special 5. Wg. High side - T. bdwd. bending
6. Low str. strd. Sitt - T. raising Vert. by Vert. breathing.
7. Yd Strd. ST - 2 Plane Arms carrying.
8. A. ly - alt. kn. str. lower, lift & bend
9. Close sitt - Deep breathing = arm rotation out  
(chest expansion)

Absences of curves in back or diminution

## Flat Back:-

Cause:-

1. Over-correction of other postural defects.
2. Lying in bed.

Symptoms -

1. Normal convex curve in dorsal region is obliterated or pronounced.
2. Ribs protruding.

Treatments :-

1. Teach correct position.
2. If giving <sup>arch</sup> Arch - then stop
3. Ex - fwd + down. bend.



## Scoliosis.

Rest - 1 hr. flat on Stomach.

### Obj of Hyg treatment

1. To get spine loosened up in all direction.
2. Redistribution of wt in line of gravity.
3. Re-educate P's sense of posture.
4. Obtain full & correct breathing in all parts of chest.
5. Strengthen general muscular tone.
6. Only Ex. for both sides of body - Symmetrical
7. Static holdings - where stretch & mobilize the spine

### Postural Scoliosis

1. Entirely cured by adequate treatment.

### Structural

In young children when a moderate degree should be practically cured by good long continued treatment.

### Terms

- R. or L. - according to convexity.
- If 2 R. in Dor. region - C curved.
- Can have R. or L. C or S. curve compound - " "
- S - curved concavity.

### Primary -

### Secondary -

- 1<sup>st</sup> ° curve - postural
- 2<sup>nd</sup> ° structural - change in lig & soft tissues.
- 3<sup>rd</sup> ° soft structures (lig & m) & also bony deformities occurring.

### Structural

Curves when reason to believe that structural changes have taken place in vert.

1. Simple or 2. Compound.
1. Sometimes spoken of as C curved.
2. " " " S " " "



Triple curves at times occur.  
When present add. to r. & l. 2 b. curves - don't  
exist with 1 st. Curve.

### Varieties of Structural Scoliosis -

Lumbar curves - greatest distortion in hips &  
waistline. Lumbar Scoliosis can be of 1 or 2 component  
curves. may be r. or l. More frequent in females.  
greatest deviation at level of 2<sup>nd</sup> & 3<sup>rd</sup> Vert.

#### Signs -

1. Displaced to convex side. Side waistline  
on that side is obliterated on that side. Waistline  
on concave side sunken in. Folds of skin appearing on  
flank. Apparent prominence of hip not by a dressmaker.  
Fullness of Bk noted on convex side, caused by rotation  
of vertebrae carrying with them the soft structures. -  
less prominent than in dorsal region. Lateral mobility  
of spine more free in bending to concave side. Forward  
rotation of pelvis maybe noted.

Dorsal Curve - greatest distortion in thorax & shlds.

Frequently single curves - more often part of other varieties.

May be r. or l. <sup>thrusting point of</sup> Curves <sup>as single</sup> from 6<sup>th</sup> - 8<sup>th</sup> Vert.

#### Signs -

On convex side thorax is displaced on that side - arms  
hang away from side - waistline flattened out & ribs project  
like crest. Shoulder on side of convexity usually  
high. Marked lat. prominence due to rotation of  
vert. & increased adhesion of ribs to vertebrae &  
rot. of scap.

On concave side - thorax flattened. Scap. sunken &  
displaced down & inf. & rotated in. Fold of skin seen in axil.  
& upward from waistline giving appearance of high  
waist line from that side



Present complications in appearance.

If lordosis predominates

R. dorsal, L. lumbar most often seen.

Often pointed on convex side. Alteration in joint planes. Rotation of Vert. bodies coincide to side of convexity. Reason - bodies more plastic and least fixed part of Vert. C. Intervertebral discs show same changes. Compression on concave side & become much wider.

Thorax altered in shape. Diaphragm assumes a lowering on side of convexity.

Causes - Malformation of spine. <sup>H.</sup> Congenital. Sprengel's Scapula - malformation (smaller wings out - M. not develop) of Thorax. Interference growth - pressure.

B. Acquired Anatomical asymmetry. May get scoliosis due to "wry neck". Short leg leg chain - see.

C. Pathological changes - (scurvy, rickets, TB or Pott's disease & tumor of spine - not treated by gymnastics) Scoliosis of this class symptom of disease. Diseases of bones & joints in lower extremity or shoulder.

Distorting Soft Parts <sup>seen</sup>  
1. Infantile Paralysis - great many cases of <sup>Scoliosis</sup>  
2 Due to spastic parap



Displaced Head.

Causes (I may meet)

1. Uni-lat occupation.
2. Habit.
3. Violin Playing.
4. Side saddle Rid.
5. Mechanical or industrial.
6. Uni-lat weight bearing.
7. General debility (weakness).
8. Deficient muscle sense.

Examination of Spine.

1. General condition of Patient.
2. Notice whether thin or well-developed.
3. Healthy color or Anemic.
4. Highly strong.
5. Chest Expansion.
6. Flat Feet or other deformities measure legs.
7. Glasses. — No wear?
8. Dress — well fitting.
9. Examine "neck" & light.

How Stand?

1. Back straight.
2. Chin out.
3. Reformed Scap.
4. Mark Spinous process.

After Back-Thrust.

1. Any deformities of chest — rickets.
  2. Examine from side — physiological changes.
- Normal Curves. Mobility of Spine.  
Side flex — rotat. — led to toes.



### Treatment of Postural Cases:-

1. Rest
2. Gym
3. Alf. side ex. for back.
4. Symmetrical or Alf. sided ex.



From front thorax displaced on convex side showing prominence on concave side. Lower end of sternum displaced 2 convex side. Greatest thoracic diam. <sup>is</sup> on 1 ant plane instead of transverse. Lat. deformities there may be an increased normal curve. If both should appear on same level usually points to compensatory curve in cervical region <sup>loss of ht.</sup> Cervical curve - head sinks in & should

Dorso-lumbar curves - character of 2 curves -  $\frac{1}{2}$  in dorsal -  $\frac{1}{2}$  in lumbar. Not assoc. with compensatory curve.  
Cervical dorsal curve -

outline from base of skull 2 should. - fuller & less crested shoulder is higher - scap. prominent on convex side whilst A. hps. away from side. Rotation of Vert. & increase in angulation of ribs in lower part. Rotation less evident above. T. displaced to side of convexity.